

Idaho General Fund Revenue Forecasting: A New Approach

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During the past two years Idaho's Division of Financial Management (DFM) has fundamentally changed the way it presents the Executive Revenue Forecast. Previously, forecasts of the state's revenue collections were presented as the most likely amount of revenue the state would receive in a given fiscal year, with only a narrow accounting-based distinction between the parts of the revenue stream that were designated as one-time in nature versus those that were considered ongoing. Starting in January 2007 the Executive Revenue Forecast introduced the concept of dividing the basic revenue forecast itself into one-time and ongoing components. This distinction (ongoing vs. one-time) is now based not only on accounting-type factors (e.g., a temporary tax rate increase), but also on the basis of economic considerations. An example of the latter is a temporary boom in capital gains realizations (due to, say, a stock-market boom or a real-estate boom) that brings actual dollars into the state's coffers, but does so at unsustainable rates.

Why is the distinction between one-time and ongoing revenue relevant in the first place? Essentially, it has to do with what the state does with its revenue (i.e., its spending policies). When the state decides what to do with the funds it expects will be available, those spending decisions fall into two broad categories. One type of spending action (e.g., hiring additional park rangers or college professors, or giving its workforce a pay raise), while not irreversible, are essentially ongoing commitments. Another type of spending action (e.g., building updated entrance booths at state parks, building a new science lab at the university, giving its workforce bonus dollars for compensation, etc.) are essentially one-time in nature, since there's no expectation of repeating the particular expenditure on an annual basis. This principle also holds true when it comes to tax policy. One-time revenue should not be used to fund ongoing tax cuts, although ongoing revenue can be used to fund one-time tax cuts.

Traditionally, Idaho has tried to be very diligent about making the distinction between funds that are one-time versus ongoing in nature. For example, any time the state has a carryover from one fiscal year to the next, those funds are by definition one-time. Any revenue-side factors that gave rise to the carryover (say, stronger-than-expected revenue collections) will only impact ongoing revenue to the extent they are reflected in an updated revenue forecast. Another example is if the state increases its sales tax rate for one year, that will generate real additional dollars for the state, but those dollars are designated as one-time, meaning they disappear after the rate hike expires. Even if we believe the rate hike will be made permanent, one of the most fundamental rules of state revenue forecasting is that the forecast be based on current law. Any calculation of revenue associated with law changes (such as making a temporary rate hike permanent) are handled separately from the revenue forecast.

This brings us to the new approach that DFM is now using in producing and presenting the General Fund revenue forecast contained in the Executive Budget. It essentially consists of two separate forecasts, one being the best estimate of how much revenue is actually expected in the budget year (this is identical to the forecast that has traditionally been produced in Idaho), the other being a best estimate of how much revenue Idaho can expect in the budget year based on the long-term relationship between the revenue stream and the economy (where the economy is described by broad economic concepts such as state personal income).

Before getting into the details of this new approach to revenue forecasting in Idaho, it may be instructive to discuss the reasons behind this change. Essentially, three primary elements converged to motivate this new approach: significantly increased volatility in the revenue stream over the past decade, an expressed

interest on the part of (then) new Idaho Governor Butch Otter to avoid the type of problems that hit state budgets in FY 2002, and the addition of Dr. Stephen Cooke to Idaho's university revenue forecasting consortium.

Volatility hit Idaho's revenue stream with a vengeance in FY 2002 (along with most other states). After several years of exceptionally strong revenue growth, FY 2002 was a year like no other (at least in modern times). Even though the U.S. economy experienced the mildest recession (when measured by peak to trough real GDP) in at least a century in 2001, state government finances experienced the "worst crisis since the great depression" according to National Governors Association Executive Director Raymond Scheppach. Idaho General Fund revenue fell by 14.3% in FY 2002, even though nominal Idaho personal income grew by 3.3% that year, after growing by 6.6% the year before. Part of this decline was the result of a particularly badly timed income tax rate cut, but even adjusting for that law change the decline would have still been 9.9%. Nothing even remotely like this has happened in Idaho in the past half century. The following table compares the standard errors of fitted trend values for each of the five major Idaho General Fund revenue sources expressed as a percentage of personal income over two distinct decades—the past ten years, and the preceding ten years.

Standard Error of Fitted Trend			
	1988 to 1997	1998 to 2007	Ratio 1998 to 2007 over 1988 to 1997
INDIVIDUAL INCOME TAX	2.82%	8.16%	2.90
CORPORATE INCOME TAX	19.38%	20.47%	1.06
SALES TAX	1.40%	2.05%	1.46
PRODUCT TAXES Subtotal	5.09%	7.40%	1.46
MISC. REVENUE Subtotal	8.06%	7.09%	0.88
TOTAL GENERAL FUND REVENUE	1.65%	5.48%	3.33

The most notable feature of this table is the substantial increase in volatility associated with General Fund revenue over the past decade when compared to the preceding decade. This overall increase in volatility appears to be mostly due to a sharp rise in the volatility associated with the individual income tax (from 2.8% to 8.2%), and an apparent increase in the synchronicity of the volatility in the elements of the General Fund that results in an even sharper increase in the overall General Fund volatility (from 1.7% to 5.5%).

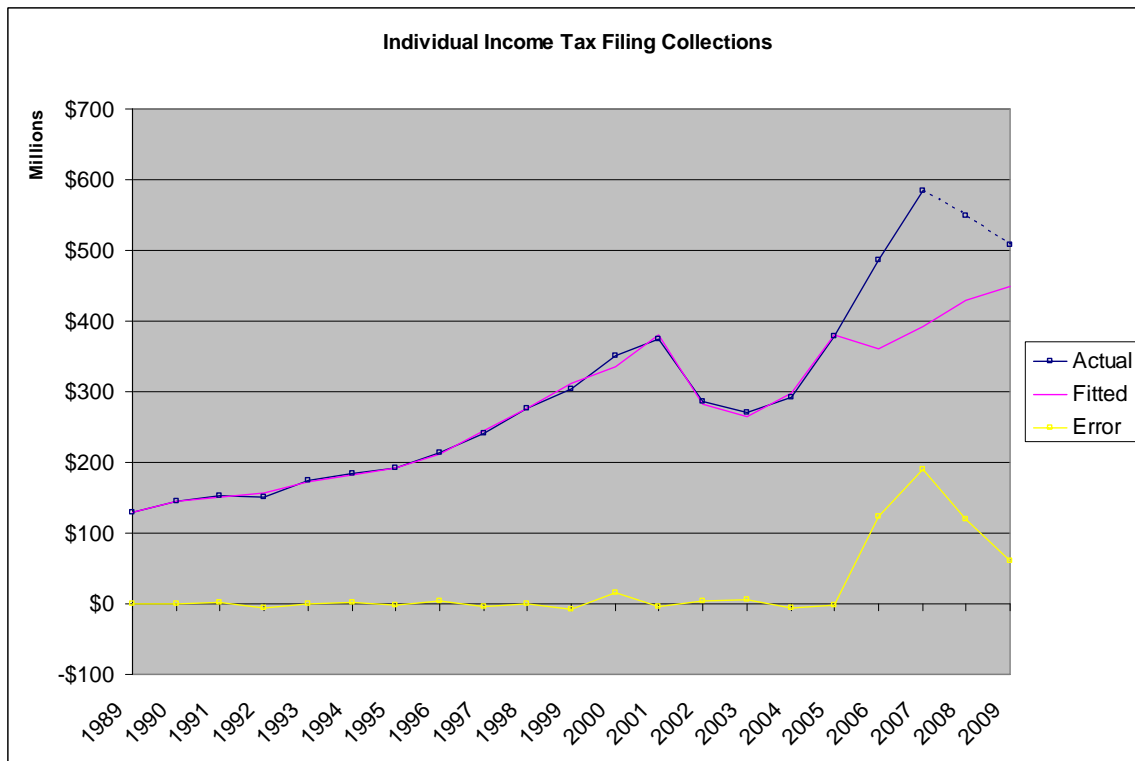
The second element that drove this change is an expressed concern on the part of the current Governor of Idaho that the state "not get ahead of its revenue stream." Within days of his election in 2006 then Governor-elect Butch Otter met with the revenue forecasting team in DFM to, among other things, get a sense of where the state's fiscal balance stood. Governor Otter was Congressman Otter during the state's fiscal meltdown of FY 2002 and FY 2003, so while he was not then directly involved in dealing with the state's financial problems, he was acutely aware of their consequences. Governor Otter has since on numerous occasions expressed strong interest in wanting to avoid the kind of fiscal train wreck that hit Idaho (and most other states) in the early part of this decade.

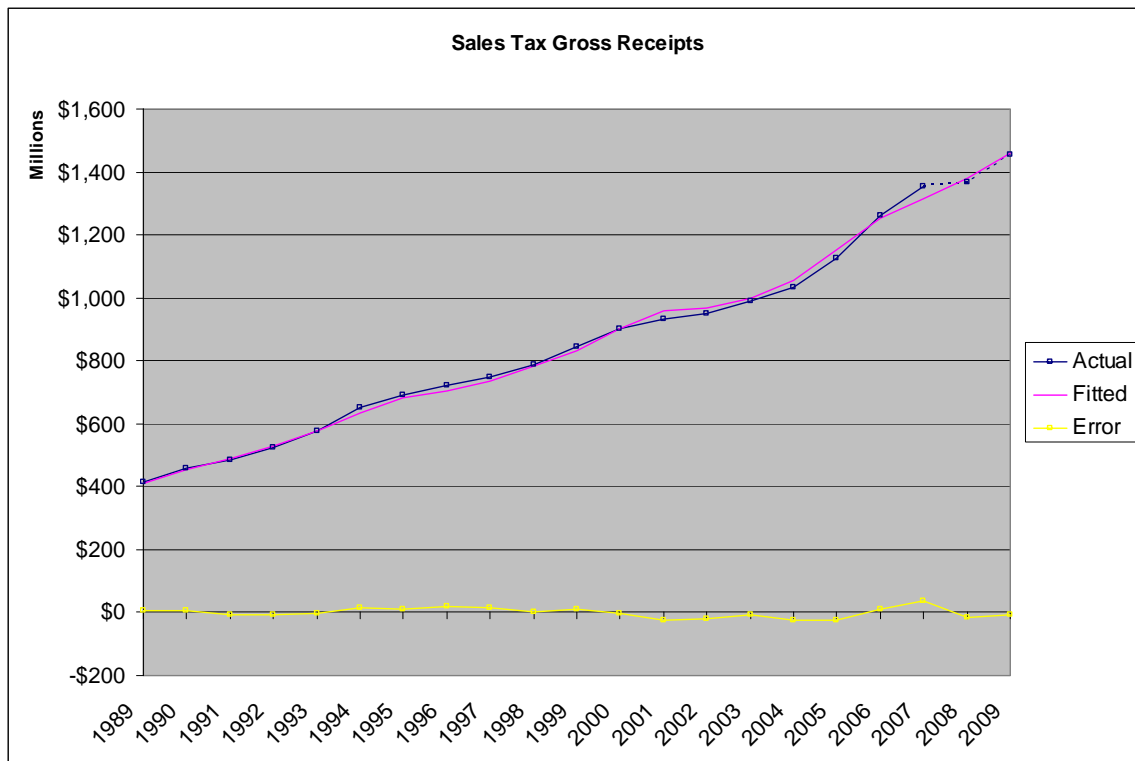
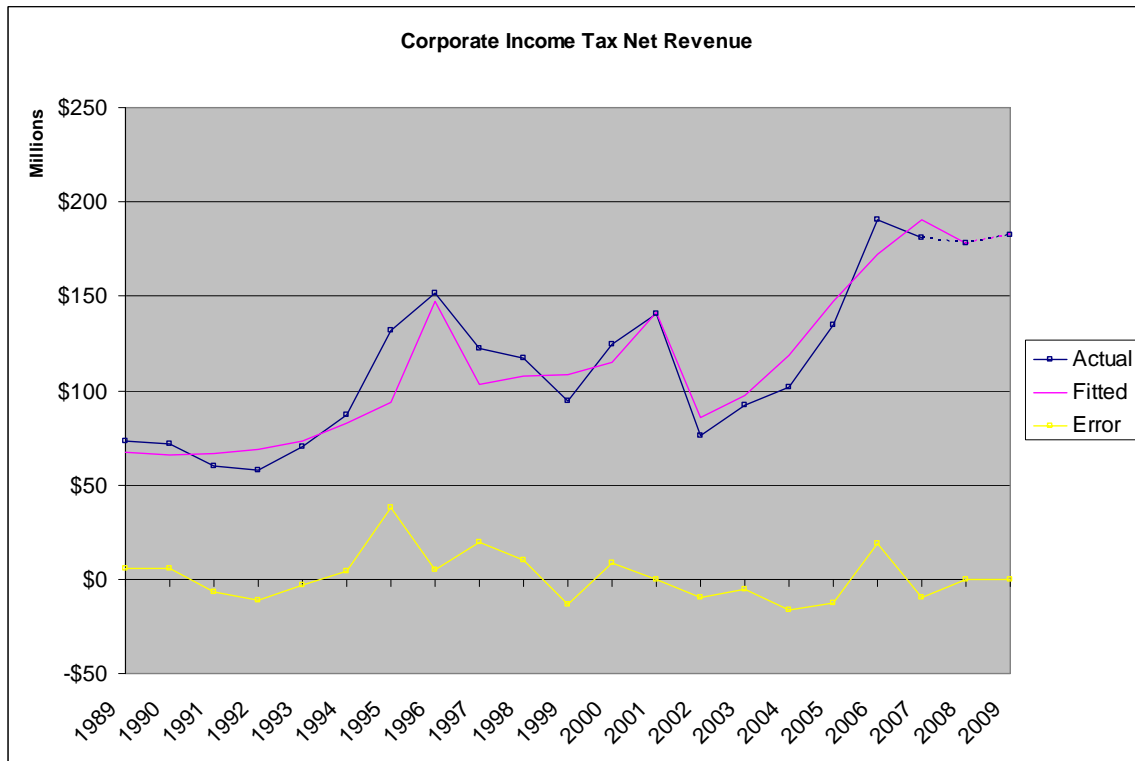
The final element that contributed to the current approach to revenue forecasting is the addition of Stephen Cooke to the team of university economists (one each from Boise State University, Idaho State University, and the University of Idaho) who provide revenue forecasts to the Idaho Legislature's Joint

Economic Outlook and Revenue Assessment Committee (EORAC). Dr. Cooke brought a fresh perspective in his attempt to develop a “rule of thumb” that connects overall General Fund revenue to Idaho personal income. Through countless hours of discussion with Dr. Cooke over the past two years it became clear that while his “rule of thumb” did not specifically answer the question faced in state revenue forecasting (What is the best estimate of how much revenue the state will actually collect in some future fiscal period?), it did answer a somewhat different question, namely, what is the best estimate of how much revenue the state would collect in some future fiscal period *if that year was a typical year*. Whereas Dr. Cooke applied his rule of thumb to total General Fund revenue, DFM has applied a similar concept at the major detailed components of the General Fund—the individual income tax, the corporate income tax, and the sales tax.

The following charts were used in DFM’s presentation to the EORAC in January 2008. They are visual representations of the distinction between ongoing and one-time revenue at the component level. These charts show the history and forecasts of the major components of Idaho General Fund revenue, the historical error between the fitted and actual values, and the estimate of the portion of one-time revenue in the total forecast of Idaho General Fund revenue. (The color versions of these charts are available online at DFM’s website.) The black lines (with square markers) are actual values for the FY 1989 through FY 2007, and total (i.e., combined ongoing and one-time) forecast values for FY 2008 and FY 2009. The red lines (with no markers) are the fitted values based on the regression equations for FY 1989 through FY 2007, and the pure regression-based forecasts for FY 2008 and FY 2009.







The following table summarizes the results displayed in the foregoing graphics for the period FY 2006 through FY 2009.

Idaho General Fund Revenue Component History and Forecast				
January 2008 Executive Revenue Forecast \$ Millions				
	FY 2006	FY 2007	FY 2008	FY 2009
INDIVIDUAL INCOME TAX Withholding				
Actual History/Total Forecast	\$939.7	\$1,046.3	\$1,113.2	\$1,185.6
Fitted History/Ongoing Forecast	\$952.2	\$1,041.9	\$1,113.2	\$1,185.6
Fitted Error/One-Time Forecast	-\$12.5	\$4.4	\$0.0	\$0.0
INDIVIDUAL INCOME TAX Refunds				
Actual History/Total Forecast	\$201.0	\$222.1	\$249.1	\$261.0
Fitted History/Ongoing Forecast	\$201.0	\$223.0	\$249.1	\$261.0
Fitted Error/One-Time Forecast	\$0.0	-\$0.9	\$0.0	\$0.0
INDIVIDUAL INCOME TAX Filing				
Actual History/Total Forecast	\$485.4	\$583.7	\$549.6	\$508.4
Fitted History/Ongoing Forecast	\$361.7	\$392.9	\$429.6	\$448.4
Fitted Error/One-Time Forecast	\$123.7	\$190.8	\$120.0	\$60.0
CORPORATE INCOME TAX				
Actual History/Total Forecast	\$194.1	\$190.2	\$184.5	\$187.8
Fitted History/Ongoing Forecast	\$173.6	\$197.8	\$184.5	\$187.8
Fitted Error/One-Time Forecast	\$20.5	-\$7.6	\$0.0	\$0.0
SALES TAX Normalized Gross Receipts				
Normalized History/Total Forecast	\$1,263.1	\$1,354.9	\$1,367.1	\$1,456.2
Fitted History/Ongoing Forecast	\$1,254.4	\$1,315.9	\$1,382.1	\$1,461.2
Fitted Error/One-Time Forecast	\$8.7	\$39.0	-\$15.0	-\$5.0

Within the individual income tax components both withholding collections and refund payments have no one-time revenue in the forecast period, nor does the corporate income tax. In this January 2008 Executive Revenue Forecast the “economic” one-time revenue is limited to individual income tax filing collections and the sales tax.

Individual income tax filing collections account for the lion’s share of the forecasted one-time revenue in both FY 2008 and FY 2009. The estimates for the amount of one-time revenue contained in individual income tax filing payments in FY 2006 and FY 2007 are also by far the largest. The most likely reason behind the exceptionally large amount of one-time revenue in the last two fiscal years is the recent housing and real-estate boom. This boom gave rise to very high (and unsustainable) levels of capital gains which in turn translate into large income tax liabilities. The forecasts for FY 2008 and FY 2009 reflect DFM’s best estimate of the future path of this boom-related one-time revenue. In essence, this

forecast assumes that Idaho will continue to receive considerable amounts of one-time revenue from the individual income tax in the current and next fiscal year.

Sales tax, in the form of gross receipts, accounts for a relatively small amount of one-time revenue in the FY 2008 and FY 2009 forecasts, but it is notable for being of the opposite sign—it is negative one-time revenue. This reflects a more rapid response to the turnaround in the fortunes of the real-estate sector. This is quite plausible for a number of reasons.

The one-time component of the sales tax last year and in the forecast period is due to the fact that building materials are subject to the sales tax. This means that during a construction boom all of the building materials that go into homes, offices, retail facilities, etc. are contributing to higher-than-normal levels of the sales tax base. When the boom subsides so will the sales tax, and if the subsidence turns into a slump there will be a period of time where the one-time component of the sales tax goes negative. That's what happens between FY 2007 and FY 2008. The estimated \$39 million in positive sales tax one-time revenue last fiscal year is forecast to turn into \$15 million of negative sales tax one-time revenue this fiscal year. After going through the sales tax distribution formula the \$15 million converts to \$13.3 million of negative General Fund revenue from the sales tax. Thus, when combined with the income tax (the filing component is the only other place where one-time revenue exists in the forecast) the net amount of one-time revenue estimated for FY 2008 is \$106.7 million, and the net estimate for FY 2009 is \$55.6 million (the negative \$5 million of gross sales tax in FY 2009 converts into \$4.4 million after running it through the sales tax distribution formula).